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Sequence Listing

<110> Merck Patent GmbH

<120> DNA sequence and recombinant preparation of grass pollen allergen
Lol p 4

<130> P 03/240

<140> DE 10359352.7

<141> 2003-12-16

<160> 27

<170> PatentIn version 3.1

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<211> 1272

<212> DNA

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<221> CDS

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Gly Gly His Asp Tyr Glu Gly Leu Ser Tyr Arg Ser Leu Gln Pro Glu
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aac ttc gca gtc gtc gac ctc aac cag atg cgg gcg gtg ttg gtg gac 145
Asn Phe Ala Val Val Asp Leu Asn Gln Met Arg Ala Val Leu Val Asp
35 40 45

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			100					105					110			
gac Asp	gtg Val	aag Lys	ctc Leu	gtc Val	gac Asp	gcc Ala	aac Asn	ggc Gly	aag Lys	ctg Leu	cac His	gac Asp	aag Lys	aag Lys	tcc Ser	385
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				165					170					175		
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atc Ile	gag Glu	tcc Ser	atc Ile	ccc Pro	ttc Phe	gtc Val	cac His	ctc Leu	ggc Gly	cat His	agg Arg	gat Asp	tcc Ser	ctg Leu	gag Glu	769
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ggc Gly	gac Asp	ctc Leu	ctc Leu	aac Asn	cgg Arg	aac Asn	aac Asn	acc Thr	ttc Phe	aag Lys	ccc Pro	ttt Phe	gcg Ala	gag Glu	tac Tyr	817
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ggc gtc tcc acc tac agc agt ggt aag gtc tgg gga cag aaa tat ttc Gly Val Ser Thr Tyr Ser Ser Gly Lys Val Trp Gly Gln Lys Tyr Phe 385 390 395 400			1201
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<213> Lol p 4

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35 40 45

Gly Lys Ala Arg Thr Ala Trp Val Asp Ser Gly Ala Gln Leu Gly Glu
50 55 60

Leu Tyr Tyr Ala Ile Ser Lys Tyr Ser Arg Thr Leu Ala Phe Pro Ala
 65 70 75 80

Gly Val Cys Pro Thr Ile Gly Val Gly Gly Asn Leu Ala Gly Gly Gly
 85 90 95

Phe Gly Met Leu Leu Arg Lys Tyr Gly Ile Ala Ala Glu Asn Val Ile
 100 105 110

Asp Val Lys Leu Val Asp Ala Asn Gly Lys Leu His Asp Lys Lys Ser
 115 120 125

Met Gly Asp Asp His Phe Trp Ala Val Arg Gly Gly Gly Gly Glu Ser
 130 135 140

Phe Gly Ile Val Val Ser Trp Gln Val Lys Leu Leu Pro Val Pro Pro
 145 150 155 160

Thr Val Thr Ile Phe Lys Ile Pro Lys Ser Val Ser Glu Gly Ala Val
 165 170 175

Asp Ile Ile Asn Lys Trp Gln Leu Val Ala Pro Gln Leu Pro Ala Asp
 180 185 190

Leu Met Ile Arg Ile Ile Ala Met Gly Pro Lys Ala Thr Phe Glu Ala
 195 200 205

Met Tyr Leu Gly Thr Cys Lys Thr Leu Thr Pro Met Met Gln Ser Lys
 210 215 220

Phe Pro Glu Leu Gly Met Asn Ala Ser His Cys Asn Glu Met Ser Trp
 225 230 235 240

Ile Glu Ser Ile Pro Phe Val His Leu Gly His Arg Asp Ser Leu Glu
 245 250 255

Gly Asp Leu Leu Asn Arg Asn Asn Thr Phe Lys Pro Phe Ala Glu Tyr
 260 265 270

Lys Ser Asp Tyr Val Tyr Glu Pro Phe Pro Lys Ser Val Trp Glu Gln
 275 280 285

Ile Phe Gly Thr Trp Leu Val Lys Pro Gly Ala Gly Ile Met Ile Phe
 290 295 300

Asp Pro Tyr Gly Ala Thr Ile Ser Ala Thr Pro Glu Ala Ala Thr Pro
 305 310 315 320

Phe Pro His Arg Lys Gly Val Leu Phe Asn Ile Gln Tyr Val Asn Tyr
 325 330 335

Trp Phe Ala Pro Gly Ala Gly Ala Ala Pro Leu Ser Trp Ser Lys Glu
 340 345 350

Ile Tyr Asn Tyr Met Glu Pro Tyr Val Ser Lys Asn Pro Arg Gln Ala
 355 360 365

Tyr Ala Asn Tyr Arg Asp Ile Asp Leu Gly Arg Asn Glu Val Val Asn
 370 375 380

Gly Val Ser Thr Tyr Ser Ser Gly Lys Val Trp Gly Gln Lys Tyr Phe
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Lys	Glu	Ile	Pro	Pro	Arg	Leu	Leu	Tyr	Ala	Lys	Ser	Ser	Pro	Ala	Tyr	
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ccc	tca	gtc	ctg	ggg	cag	acc	atc	cgg	aac	tcg	agg	tgg	tcg	tcg	ccg	144
Pro	Ser	Val	Leu	Gly	Gln	Thr	Ile	Arg	Asn	Ser	Arg	Trp	Ser	Ser	Pro	
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gac	aac	gtg	aag	ccg	ctc	tac	atc	atc	acc	ccc	acc	aac	gtc	tcc	cac	192
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Asp	Asn	Val	Lys	Pro	Leu	Tyr	Ile	Ile	Thr	Pro	Thr	Asn	Val	Ser	His	
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Ile	Gln	Ser	Ala	Val	Val	Cys	Gly	Arg	Arg	Tyr	Asp	Val	Arg	Ile	Arg	
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Gln	Pro	Glu	Asn	Phe	Ala	Val	Val	Asp	Leu	Asn	Gln	Met	Arg	Ala	Val	
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Gly	Gly	Gly	Phe	Gly	Met	Leu	Leu	Arg	Lys	Tyr	Gly	Ile	Ala	Ala	Glu	
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aac	gtc	atc	gac	gtg	aag	ctc	gtc	gac	gcc	aac	ggc	aag	ctg	cac	gac	576
Asn	Val	Ile	Asp	Val	Lys	Leu	Val	Asp	Ala	Asn	Gly	Lys	Leu	His	Asp	
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Lys	Lys	Ser	Met	Gly	Asp	Asp	His	Phe	Trp	Ala	Val	Arg	Gly	Gly	Gly	
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ggc	gag	agc	ttc	ggc	atc	gtg	gtc	tcg	tgg	cag	gtg	aag	ctc	ctg	ccg	672
Gly	Glu	Ser	Phe	Gly	Ile	Val	Val	Ser	Trp	Gln	Val	Lys	Leu	Leu	Pro	
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gtg	cct	ccc	acg	gtg	acc	atc	ttc	aag	atc	ccc	aag	tca	gtc	agc	gag	720
Val	Pro	Pro	Thr	Val	Thr	Ile	Phe	Lys	Ile	Pro	Lys	Ser	Val	Ser	Glu	
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Gly	Ala	Val	Asp	Ile	Ile	Asn	Lys	Trp	Gln	Leu	Val	Ala	Pro	Gln	Leu	
				245					250					255		
ccc	gcc	gac	ctc	atg	atc	cgc	atc	att	gcg	atg	ggg	ccc	aag	gcc	acg	816
Pro	Ala	Asp	Leu	Met	Ile	Arg	Ile	Ile	Ala	Met	Gly	Pro	Lys	Ala	Thr	
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Phe	Glu	Ala	Met	Tyr	Leu	Gly	Thr	Cys	Lys	Thr	Leu	Thr	Pro	Met	Met	
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Gln	Ser	Lys	Phe	Pro	Glu	Leu	Gly	Met	Asn	Ala	Ser	His	Cys	Asn	Glu	
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aaa tat ttc aag ggt aac ttc gag agg ctc gcc att acc aag ggc aag Lys Tyr Phe Lys Gly Asn Phe Glu Arg Leu Ala Ile Thr Lys Gly Lys 465 470 475 480	1440
gtg gat cct acg gat tac ttc agg aac gag cag agc atc ccg ccg ctc Val Asp Pro Thr Asp Tyr Phe Arg Asn Glu Gln Ser Ile Pro Pro Leu 485 490 495	1488
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35 40 45

Asp Asn Val Lys Pro Leu Tyr Ile Ile Thr Pro Thr Asn Val Ser His
50 55 60

Ile Gln Ser Ala Val Val Cys Gly Arg Arg Tyr Asp Val Arg Ile Arg
65 70 75 80

Val Arg Ser Gly Gly His Asp Tyr Glu Gly Leu Ser Tyr Arg Ser Leu
85 90 95

Gln Pro Glu Asn Phe Ala Val Val Asp Leu Asn Gln Met Arg Ala Val
100 105 110

Leu Val Asp Gly Lys Ala Arg Thr Ala Trp Val Asp Ser Gly Ala Gln
115 120 125

Leu Gly Glu Leu Tyr Tyr Ala Ile Ser Lys Tyr Ser Arg Thr Leu Ala
130 135 140

Phe Pro Ala Gly Val Cys Pro Thr Ile Gly Val Gly Gly Asn Leu Ala
145 150 155 160

Gly Gly Gly Phe Gly Met Leu Leu Arg Lys Tyr Gly Ile Ala Ala Glu
165 170 175

Asn Val Ile Asp Val Lys Leu Val Asp Ala Asn Gly Lys Leu His Asp
180 185 190

Lys Lys Ser Met Gly Asp Asp His Phe Trp Ala Val Arg Gly Gly Gly
195 200 205

Gly Glu Ser Phe Gly Ile Val Val Ser Trp Gln Val Lys Leu Leu Pro
210 215 220

Val Pro Pro Thr Val Thr Ile Phe Lys Ile Pro Lys Ser Val Ser Glu
225 230 235 240

Gly Ala Val Asp Ile Ile Asn Lys Trp Gln Leu Val Ala Pro Gln Leu

Val Asp Pro Thr Asp Tyr Phe Arg Asn Glu Gln Ser Ile Pro Pro Leu
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Ile Lys Lys Tyr
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Lys	Glu	Ile	Pro	Pro	Arg	Leu	Leu	Tyr	Ala	Lys	Ser	Ser	Pro	Ala	Tyr	
			20					25					30			

ccc	tca	gtc	ctg	ggg	cag	acc	atc	cgg	aac	tcg	agg	tgg	tcg	tcg	ccg	144
Pro	Ser	Val	Leu	Gly	Gln	Thr	Ile	Arg	Asn	Ser	Arg	Trp	Ser	Ser	Pro	
		35					40					45				

gac	aac	gtg	aag	ccg	ctc	tac	atc	atc	acc	ccc	acc	aac	gtc	tcc	cac	192
Asp	Asn	Val	Lys	Pro	Leu	Tyr	Ile	Ile	Thr	Pro	Thr	Asn	Val	Ser	His	
	50					55					60					

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Ile	Gln	Ser	Ala	Val	Val	Cys	Gly	Arg	Arg	His	Ser	Val	Arg	Ile	Arg	
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gtg	cgc	agc	ggc	ggg	cac	gac	tac	gag	ggc	ctc	tcg	tac	cgg	tct	ttg	288
Val	Arg	Ser	Gly	Gly	His	Asp	Tyr	Glu	Gly	Leu	Ser	Tyr	Arg	Ser	Leu	
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cag	ccc	gag	acg	ttc	gcc	gtc	gtc	gac	ctc	aac	aag	atg	cgg	gcg	gtg	336
Gln	Pro	Glu	Thr	Phe	Ala	Val	Val	Asp	Leu	Asn	Lys	Met	Arg	Ala	Val	
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tgg	gtg	gac	ggc	aag	gcc	cgc	acg	gcg	tgg	gtg	gac	tcc	ggc	gcg	cag	384
Trp	Val	Asp	Gly	Lys	Ala	Arg	Thr	Ala	Trp	Val	Asp	Ser	Gly	Ala	Gln	
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ctc	ggc	gag	ctc	tac	tac	gcc	atc	tat	aag	gcg	agc	ccc	acg	ctg	gcg	432
Leu	Gly	Glu	Leu	Tyr	Tyr	Ala	Ile	Tyr	Lys	Ala	Ser	Pro	Thr	Leu	Ala	
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Phe	Pro	Ala	Gly	Val	Cys	Pro	Thr	Ile	Gly	Val	Gly	Gly	Asn	Phe	Ala	

145				150				155				160				
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ggc Gly	gag Glu 210	agc Ser	ttc Phe	ggc Gly	atc Ile	gtg Val 215	gtc Val	gcg Ala	tgg Trp	cag Gln	gtg Val 220	aag Lys	ctc Leu	ctg Leu	ccg Pro	672
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agc Ser	agc Ser 290	aag Lys	ttc Phe	ccg Pro	gag Glu	ctc Leu 295	ggc Gly	atg Met	aac Asn	ccc Pro	tcc Ser 300	cac His	tgc Cys	aac Asn	gag Glu	912
atg Met 305	tca Ser	tgg Trp	atc Ile	cag Gln	tcc Ser 310	atc Ile	ccc Pro	ttc Phe	gtc Val	cac His 315	ctc Leu	ggc Gly	cac His	agg Arg	gac Asp 320	960
gcc Ala	ctc Leu	gag Glu	gac Asp	gac Asp 325	ctc Leu	ctc Leu	aac Asn	cgg Arg	aac Asn 330	aac Asn	tcc Ser	ttc Phe	aag Lys	ccc Pro 335	ttc Phe	1008
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tgg Trp	gag Glu	cag Gln 355	atc Ile	ctc Leu	aac Asn	acc Thr	tgg Trp 360	ctc Leu	gtc Val	aag Lys	ccc Pro	ggc Gly 365	gcc Ala	ggg Gly	atc Ile	1104
atg Met	atc Ile 370	ttc Phe	gac Asp	ccc Pro	tac Tyr	ggc Gly 375	gcc Ala	acc Thr	atc Ile	agc Ser	gcc Ala 380	acc Thr	ccg Pro	gag Glu	tcc Ser	1152
gcc Ala 385	acg Thr	ccc Pro	ttc Phe	cct Pro	cac His 390	cgc Arg	aag Lys	ggc Gly	gtc Val	ctc Leu 395	ttc Phe	aac Asn	atc Ile	cag Gln	tac Tyr 400	1200
gtc	aac	tac	tgg	ttc	gcc	ccg	gga	gcc	gcc	gcc	gcg	ccc	ctc	tcg	tgg	1248

Val	Asn	Tyr	Trp	Phe	Ala	Pro	Gly	Ala	Ala	Ala	Ala	Pro	Leu	Ser	Trp		
				405					410					415			
agc	aag	gac	atc	tac	aac	tac	atg	gag	ccc	tac	gtg	agc	aag	aac	ccc		1296
Ser	Lys	Asp	Ile	Tyr	Asn	Tyr	Met	Glu	Pro	Tyr	Val	Ser	Lys	Asn	Pro		
			420					425					430				
agg	cag	gcg	tac	gca	aac	tac	agg	gac	atc	gac	ctc	ggc	agg	aac	gag		1344
Arg	Gln	Ala	Tyr	Ala	Asn	Tyr	Arg	Asp	Ile	Asp	Leu	Gly	Arg	Asn	Glu		
		435					440					445					
gtg	gtc	aac	gac	gtc	tcc	acc	tac	gcc	agc	ggc	aag	gtc	tgg	ggc	cag		1392
Val	Val	Asn	Asp	Val	Ser	Thr	Tyr	Ala	Ser	Gly	Lys	Val	Trp	Gly	Gln		
	450					455					460						
aaa	tac	ttc	aag	ggc	aac	ttc	gag	agg	ctc	gcc	att	acc	aag	ggc	aag		1440
Lys	Tyr	Phe	Lys	Gly	Asn	Phe	Glu	Arg	Leu	Ala	Ile	Thr	Lys	Gly	Lys		
465					470					475					480		
gtc	gat	cct	acc	gac	tac	ttc	agg	aac	gag	cag	agc	atc	ccg	ccg	ctc		1488
Val	Asp	Pro	Thr	Asp	Tyr	Phe	Arg	Asn	Glu	Gln	Ser	Ile	Pro	Pro	Leu		
				485					490					495			
atc	aaa	aag	tac	tga													1503
Ile	Lys	Lys	Tyr														
			500														

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<212> PRT

<213> Ph1 p 4

<400> 6

Tyr	Phe	Pro	Pro	Pro	Ala	Ala	Lys	Glu	Asp	Phe	Leu	Gly	Cys	Leu	Val		
1				5					10					15			

Lys	Glu	Ile	Pro	Pro	Arg	Leu	Leu	Tyr	Ala	Lys	Ser	Ser	Pro	Ala	Tyr		
			20					25					30				

Pro	Ser	Val	Leu	Gly	Gln	Thr	Ile	Arg	Asn	Ser	Arg	Trp	Ser	Ser	Pro		
		35					40					45					

Asp	Asn	Val	Lys	Pro	Leu	Tyr	Ile	Ile	Thr	Pro	Thr	Asn	Val	Ser	His		
	50					55					60						

Ile	Gln	Ser	Ala	Val	Val	Cys	Gly	Arg	Arg	His	Ser	Val	Arg	Ile	Arg		
65					70					75					80		

Val	Arg	Ser	Gly	Gly	His	Asp	Tyr	Glu	Gly	Leu	Ser	Tyr	Arg	Ser	Leu		
				85					90					95			

Gln Pro Glu Thr Phe Ala Val Val Asp Leu Asn Lys Met Arg Ala Val
 100 105 110

Trp Val Asp Gly Lys Ala Arg Thr Ala Trp Val Asp Ser Gly Ala Gln
 115 120 125

Leu Gly Glu Leu Tyr Tyr Ala Ile Tyr Lys Ala Ser Pro Thr Leu Ala
 130 135 140

Phe Pro Ala Gly Val Cys Pro Thr Ile Gly Val Gly Gly Asn Phe Ala
 145 150 155 160

Gly Gly Gly Phe Gly Met Leu Leu Arg Lys Tyr Gly Ile Ala Ala Glu
 165 170 175

Asn Val Ile Asp Val Lys Leu Val Asp Ala Asn Gly Lys Leu His Asp
 180 185 190

Lys Lys Ser Met Gly Asp Asp His Phe Trp Ala Val Arg Gly Gly Gly
 195 200 205

Gly Glu Ser Phe Gly Ile Val Val Ala Trp Gln Val Lys Leu Leu Pro
 210 215 220

Val Pro Pro Thr Val Thr Ile Phe Lys Ile Ser Lys Thr Val Ser Glu
 225 230 235 240

Gly Ala Val Asp Ile Ile Asn Lys Trp Gln Val Val Ala Pro Gln Leu
 245 250 255

Pro Ala Asp Leu Met Ile Arg Ile Ile Ala Gln Gly Pro Lys Ala Thr
 260 265 270

Phe Glu Ala Met Tyr Leu Gly Thr Cys Lys Thr Leu Thr Pro Leu Met
 275 280 285

Ser Ser Lys Phe Pro Glu Leu Gly Met Asn Pro Ser His Cys Asn Glu
 290 295 300

Met Ser Trp Ile Gln Ser Ile Pro Phe Val His Leu Gly His Arg Asp
 305 310 315 320

Ala Leu Glu Asp Asp Leu Leu Asn Arg Asn Asn Ser Phe Lys Pro Phe
 325 330 335

Ala Glu Tyr Lys Ser Asp Tyr Val Tyr Gln Pro Phe Pro Lys Thr Val
 340 345 350

Trp Glu Gln Ile Leu Asn Thr Trp Leu Val Lys Pro Gly Ala Gly Ile
 355 360 365

Met Ile Phe Asp Pro Tyr Gly Ala Thr Ile Ser Ala Thr Pro Glu Ser
 370 375 380

Ala Thr Pro Phe Pro His Arg Lys Gly Val Leu Phe Asn Ile Gln Tyr
 385 390 395 400

Val Asn Tyr Trp Phe Ala Pro Gly Ala Ala Ala Ala Pro Leu Ser Trp
 405 410 415

Ser Lys Asp Ile Tyr Asn Tyr Met Glu Pro Tyr Val Ser Lys Asn Pro
 420 425 430

Arg Gln Ala Tyr Ala Asn Tyr Arg Asp Ile Asp Leu Gly Arg Asn Glu
 435 440 445

Val Val Asn Asp Val Ser Thr Tyr Ala Ser Gly Lys Val Trp Gly Gln
 450 455 460

Lys Tyr Phe Lys Gly Asn Phe Glu Arg Leu Ala Ile Thr Lys Gly Lys
 465 470 475 480

Val Asp Pro Thr Asp Tyr Phe Arg Asn Glu Gln Ser Ile Pro Pro Leu
 485 490 495

Ile Lys Lys Tyr
 500

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<211> 12

<212> PRT

<213> Dactylus glomerata

<400> 7

Asp Ile Tyr Asn Tyr Met Glu Pro Tyr Val Ser Lys
 1 5 10

<210> 8

<211> 11

- 15 -

<212> PRT

<213> *Dactylus glomerata*

<400> 8

Val	Asp	Pro	Thr	Asp	Tyr	Phe	Gly	Asn	Glu	Gln
1				5					10	

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<211> 17

<212> PRT

<213> *Dactylus glomerata*

<400> 9

Ala	Arg	Thr	Ala	Trp	Val	Asp	Ser	Gly	Ala	Gln	Leu	Gly	Glu	Leu	Ser
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Tyr

<210> 10

<211> 15

<212> PRT

<213> *Dactylus glomerata*

<400> 10

Gly	Val	Leu	Phe	Asn	Ile	Gln	Tyr	Val	Asn	Tyr	Trp	Phe	Ala	Pro
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<210> 11

<211> 11

<212> PRT

<213> *Cynodon dactylon*

<400> 11

Lys	Thr	Val	Lys	Pro	Leu	Tyr	Ile	Ile	Thr	Pro
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<210> 12

<211> 22

<212> PRT

<213> Cynodon dactylon

<400> 12

Lys	Gln	Val	Glu	Arg	Asp	Phe	Leu	Thr	Ser	Leu	Thr	Lys	Asp	Ile	Pro
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Gln	Leu	Tyr	Leu	Lys	Ser
			20		

<210> 13

<211> 16

<212> PRT

<213> Cynodon dactylon

<400> 13

Thr	Val	Lys	Pro	Leu	Tyr	Ile	Ile	Thr	Pro	Ile	Thr	Ala	Ala	Met	Ile
1				5					10					15	

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<211> 24

<212> PRT

<213> Cynodon dactylon

<400> 14

Leu	Arg	Lys	Tyr	Gly	Thr	Ala	Ala	Asp	Asn	Val	Ile	Asp	Ala	Lys	Val
1				5					10					15	

Val	Asp	Ala	Gln	Gly	Arg	Leu	Leu
			20				

<210> 15

<211> 14

<212> PRT

<213> Cynodon dactylon

<400> 15

Lys Trp Gln Thr Val Ala Pro Ala Leu Pro Asp Pro Asn Met
1 5 10

<210> 16

<211> 15

<212> PRT

<213> Cynodon dactylon

<400> 16

Val Thr Trp Ile Glu Ser Val Pro Tyr Ile Pro Met Gly Asp Lys
1 5 10 15

<210> 17

<211> 19

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<223> undetermined amino acid

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1 5 10 15

Gly Lys Tyr

<210> 18

<211> 23

<212> PRT

<213> Cynodon dactylon

<400> 18

Thr Ser Asn Ile Lys Ala Phe Gly Lys Tyr Lys Ser Asp Tyr Val Leu
1 5 10 15

Glu Pro Ile Pro Lys Lys Ser
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<210> 19

<211> 13

<212> PRT

<213> Cynodon dactylon

<400> 19

Tyr Arg Asp Leu Asp Leu Gly Val Asn Gln Val Val Gly
1 5 10

<210> 20

<211> 15

<212> PRT

<213> Cynodon dactylon

<400> 20

Ser Ala Thr Pro Pro Thr His Arg Ser Gly Val Leu Phe Asn Ile
1 5 10 15

<210> 21

<211> 36

<212> PRT

<213> Cynodon dactylon

<400> 21

Ala Ala Ala Ala Leu Pro Thr Gln Val Thr Arg Asp Ile Tyr Ala Phe
1 5 10 15

Met Thr Pro Tyr Val Ser Lys Asn Pro Arg Gln Ala Tyr Val Asn Tyr

20

25

30

Arg Asp Leu Asp
35

<210> 22

<211> 14

<212> PRT

<213> Lolium perenne

<400> 22

Phe Leu Glu Pro Val Leu Gly Leu Ile Phe Pro Ala Gly Val
1 5 10

<210> 23

<211> 9

<212> PRT

<213> Lolium perenne

<400> 23

Gly Leu Ile Glu Phe Pro Ala Gly Val
1 5

<210> 24

<211> 22

<212> DNA

<213> Lolium perenne

<400> 24

ggctcccggg gcgaaccagt ag

22

<210> 25

<211> 23

<212> DNA

<213> Lolium perenne

<400> 25
accaacgcct cccacatcca gtc 23

<210> 26

<211> 49

<212> DNA

<213> Lolium perenne

<400> 26
gataagcttg aattctgatt agtacttttt gatcagcggc gggatgctc 49

<210> 27

<211> 49

<212> DNA

<213> Lolium perenne

<400> 27
gataagcttc tcgagtgatt agtacttttt gatcagcggc gggatgctc 49